28. A hybrid PKS gene according to claim 1 wherein said nucleic acid portions encode combinatorial modules each extending between corresponding domains of two natural modules.

29. A hybrid PKS gene according to claim 1 including nucleic acid encoding a chain terminating enzyme other than thioesterase.

- 30. A hybrid PKS gene according to claim 1 wherein said at least one second nucleic acid portion comprises a portion encoding an extension module leading to a ketide unit differing from the natural unit in at least one of the following characteristics: oxidation state; stereochemistry; substitution pattern.
- Nucleic acid encoding a gene according to claim 1 operably linked to a PKS type II promoter.
- Nucleic acid according to claim 11 wherein the promoter is accompanied by its natural activator gene.
- Nucleic acid according to claim 31 wherein the promoter is act I of <u>S.</u> coelicolor.
- Nucleic acid according to claim 32 wherein the promoter is <u>act</u> I of <u>S.</u> coelicolor.
  - 35. A hybrid polyketide synthase as encoded by a gene according to claim
  - 36. A vector including a gene according to claim 1.
- 37. A transformed organism containing a gene according to claim 1 and able to express a polyketide synthase encoded thereby.
  - 38. A method of producing an organism as defined in claim 37 comprising